

DEIP

DISTRIBUTED ENERGY
INTEGRATION PROGRAM

DEIP ISC – Interoperability 2022+

February 2022

Welcome and Today

- We acknowledge and celebrate the First Australians on whose traditional lands we meet, and pay our respect to their elders past and present.
- Welcome to the event today which is a public consultation for the **ESB Interoperability Consultation Paper**

Interoperability Steering Committee

Background

Interoperability is the ability of different IT systems, devices and software applications to **leverage two-way communication and to use, and exchange data accurately**.

The DEIP Interoperability Steering Committee (ISC) has been operating in various forms since May 2020 to **support the development and adoption of DER technical and interoperability standards**.

Challenge and Opportunity

Customers are driving a distributed energy revolution in Australia through the uptake of DER. However, **DER are contributing to dynamic two-way flows of energy** which must be coordinated effectively.

New interoperability standards and capabilities are vital to **giving customers choice and certainty about their DER uptake and usage**, whilst ensuring energy reliability and energy security.

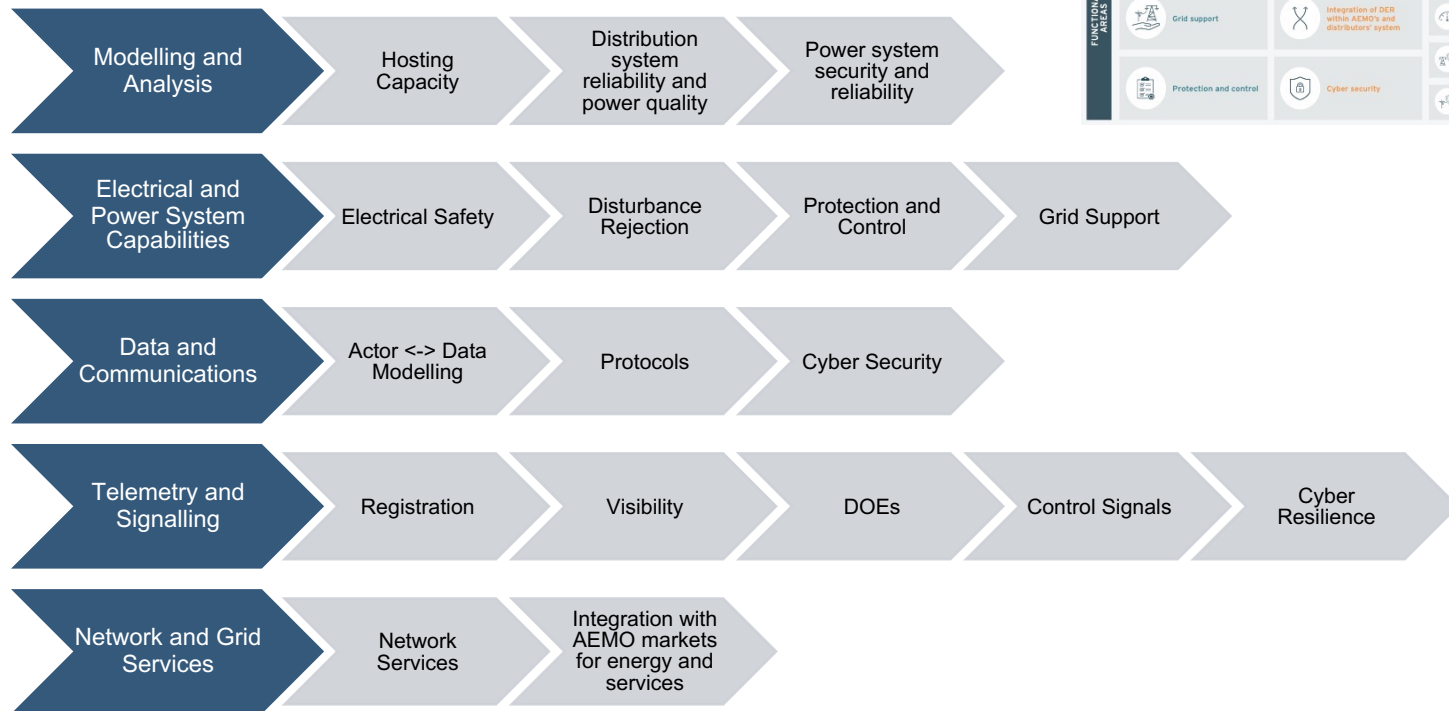
Value of Interoperability

1. **Supports the rapid uptake of DER** for the benefit of consumers.
2. Simplifies system integration of DER and **enables existing infrastructure to be used in smarter ways**.
3. **Allows DER to create value for individuals and communities** by supporting network and system operators.



DER Integration Functional Capabilities

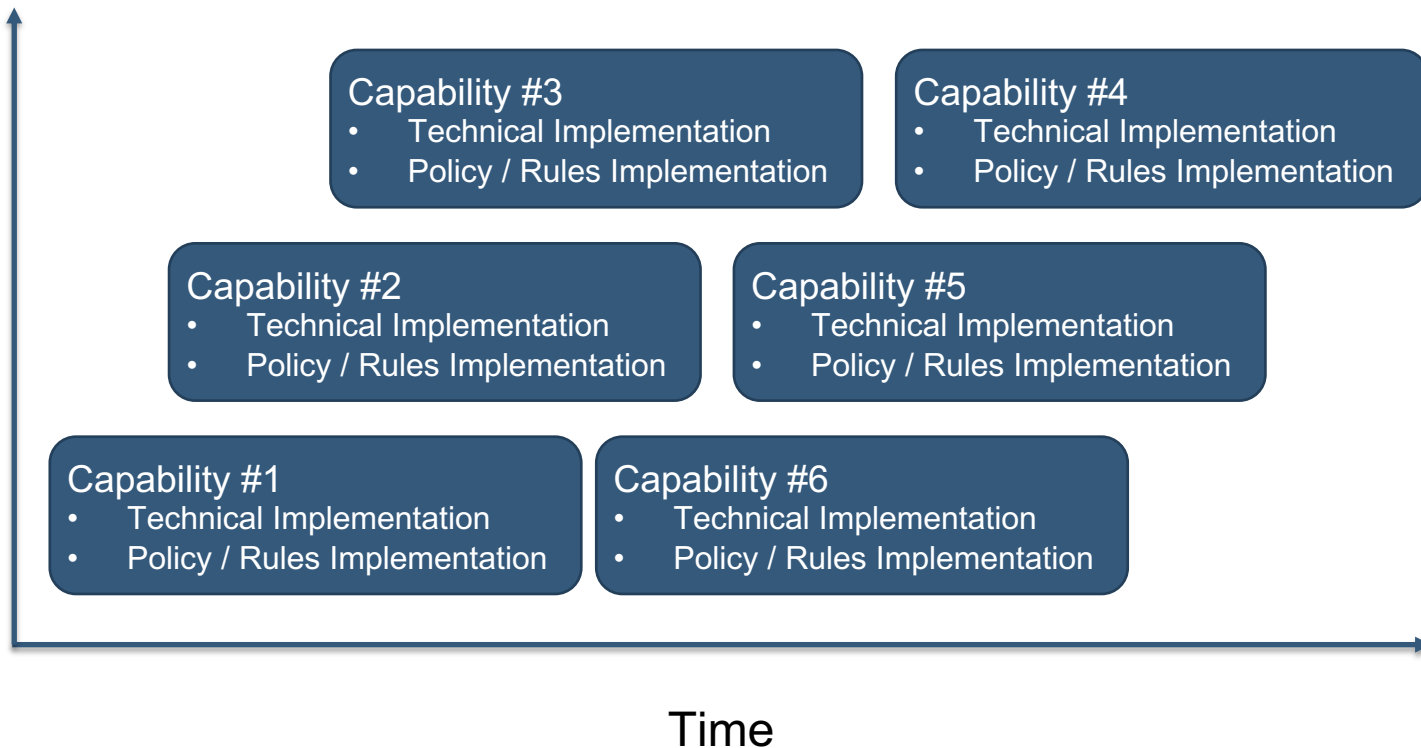
STATE OF DISTRIBUTED ENERGY RESOURCES:
TECHNOLOGY INTEGRATION REPORT, ARENA, February
2021



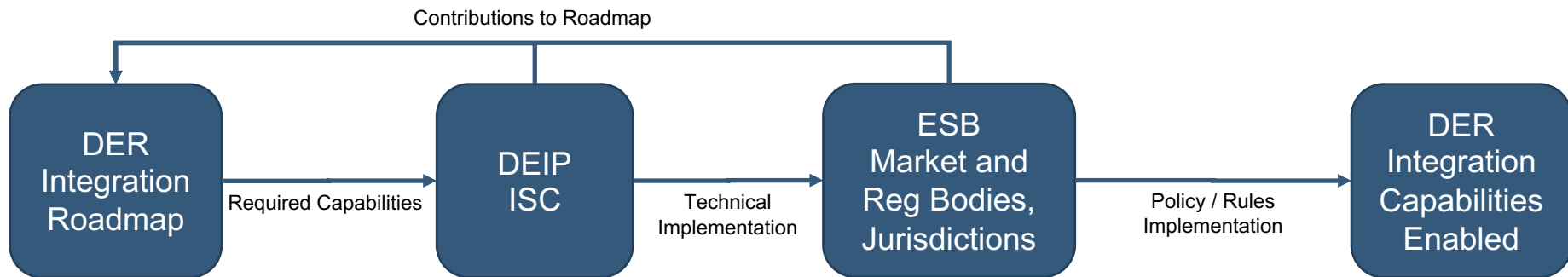
INTEGRATION TOPICS	DEVICES	COMMUNICATIONS & INTEROPERABILITY	UNDERSTANDING DER BEHAVIOUR	SERVICES
	What capabilities can DER assets provide to benefit the power system?	How do DER assets communicate and interoperate with each other and broader systems?	What data, modeling and analysis is needed to understand DER behaviour and maximise the benefits of DER?	What market and network services can DER deliver?
FUNCTIONAL AREAS	Ability to withstand disturbances	Interoperability between devices and between devices and systems	DER visibility	Integration with wholesale energy and system security services markets
	Grid support	Integration of DER within AEMO's and distributors' system	DER modeling	
	Protection and control	Cyber security	Network hosting capacity	Provision of localised network services
			Bulk power system security and reliability	
			Distribution system reliability and power quality	

Developing a DER Integration Roadmap

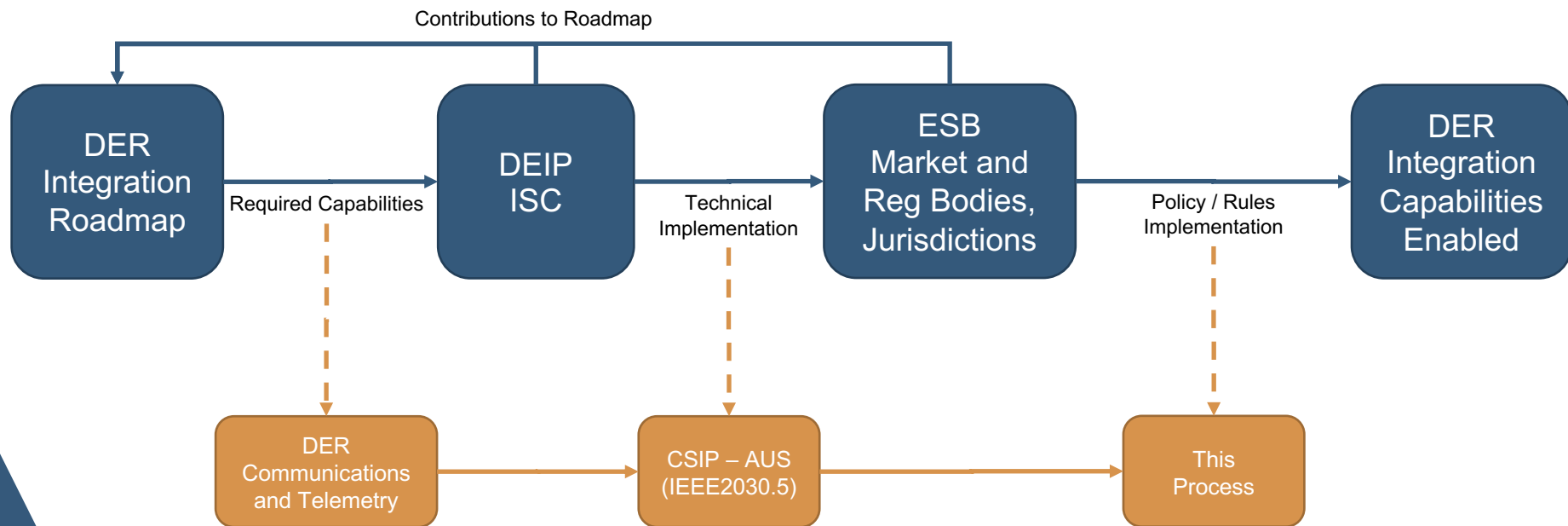
Functional
Capabilities



Enacting a DER Integration Roadmap



Today: ESB Interoperability Consultation Paper



Thankyou

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Interoperability Steering Committee (ISC)

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Interoperability Steering Committee

2022 Workplan

Key Stakeholders



- DERIAPITWG
- Industry stakeholders



- Industry stakeholders



- Industry stakeholders

2022 Planned Activities

Further development of DER communication protocol – CSIP - Australia

- A testing guide to allow stakeholders and vendors to validate conformance to CSIP - AUS
- Continued engagement with Standards Australia and the IEEE.

Progress Cyber Security for DER Integration

- A DER Cyber Security no-regrets technical work plan.
- Design capabilities and system framework for security of communications platforms.
- Support DISER identifying regulatory lever to implement minimum cyber security capabilities.

Standards co-existence

- Drive industry understanding that multiple standards and protocols are required to enable interoperability. This includes the potential for different communications protocols that are applicable to different devices (EVs, inverters, load).
- A workshop to identify the issues related to standards coexistence and gaps for further work

Impact

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3. **Allows DER to create value for individuals and communities** by supporting network and system operators.

Interoperability Steering Committee

2022 Workplan

Key Stakeholders



- DEIP EV Grid Integration WG
- Industry stakeholders



- State governments
- Industry



2022 Planned Activities

EV interoperability and integration

- Develop a framework for identifying and recommending the adoption of relevant EV interoperability and integration standards.
- Explore national standardisation of EV managed and V2G integration and interoperability standards and protocols.

BTM interoperability

- Establish the evidence base for standardising, and potentially regulating, BTM interoperability (e.g. EVs/CEMS/HEMS standards).
- Investigate and recommend appropriate BTM interoperability standards.

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